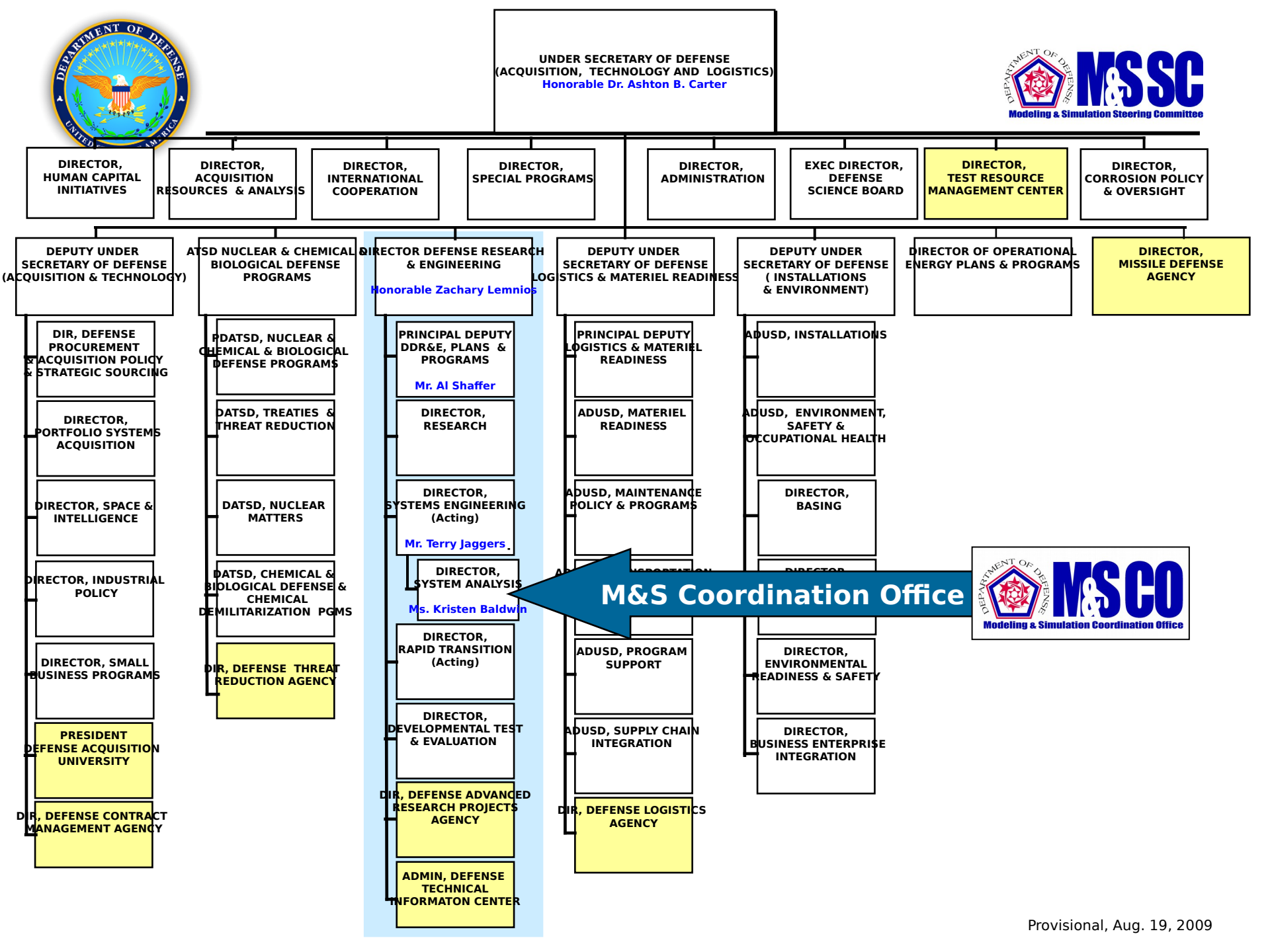
DoD Modeling & Simulation Management System

M&S Coordination Office (M&S CO)

Briefing to

DoD Workshop on M&S for Logistics and Sustainment

Presented by
Mr. Jesse Citizen and Mr. Benn Aaronson
1 September 2009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M&SSC
Modeling & Simulation Steering Committee
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DIRECTOR, ACQUISITION RESOURCES & ANALYSIS
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EXEC DIRECTOR, DEFENSE SCIENCE BOARD
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DATSD, CHEMICAL & BIOLOGICAL DEFENSE & CHEMICAL DEMILITARIZATION PGMS
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Mr. Al Shaffer
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Ms. Kristen Baldwin
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ADUSD, MATERIEL READINESS
ADUSD, MAINTENANCE POLICY & PROGRAMS
ADUSD, PROGRAM SUPPORT
ADUSD, SUPPLY CHAIN INTEGRATION
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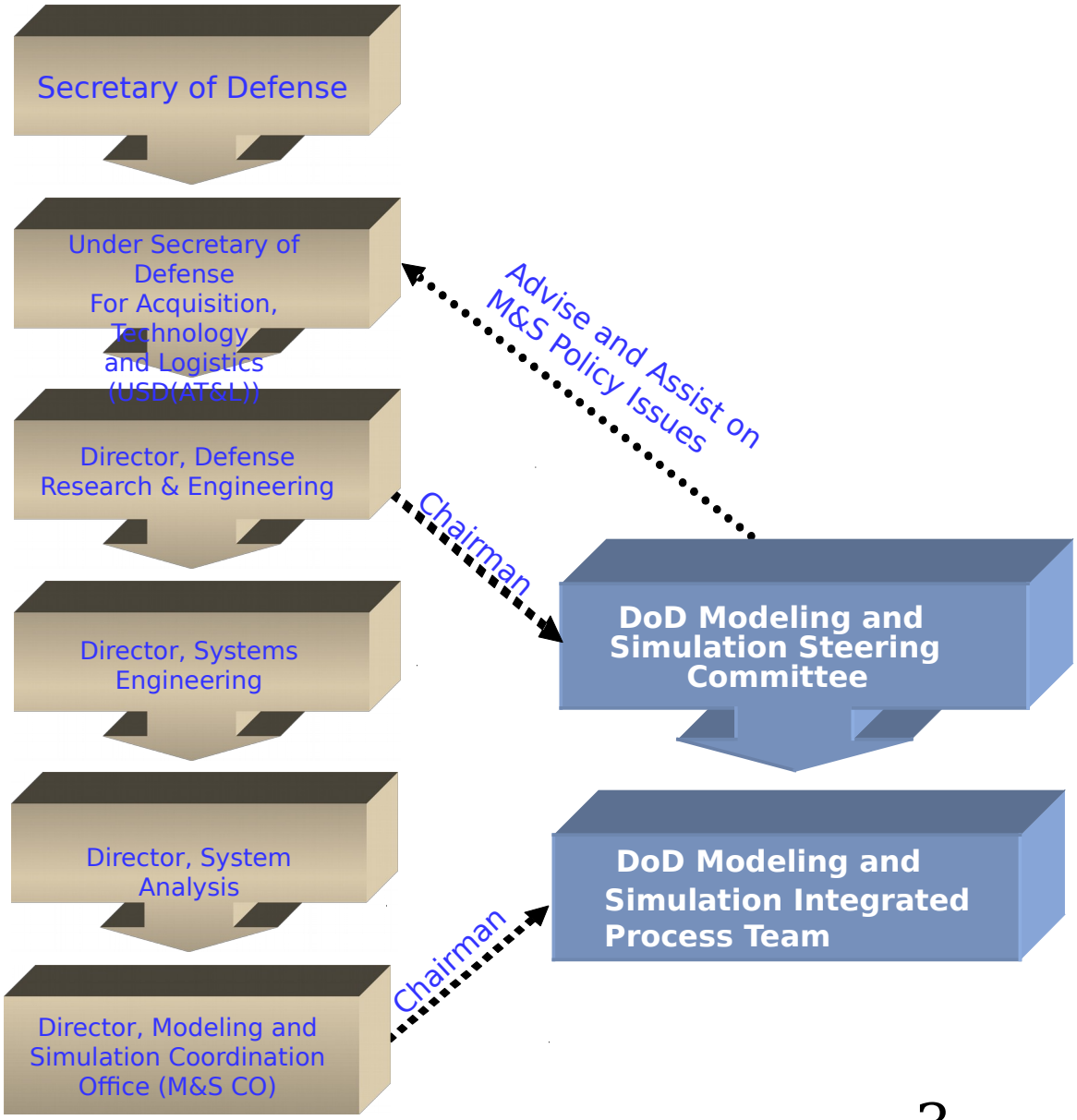
ADUSD, INSTALLATIONS
ADUSD, ENVIRONMENT, SAFETY & OCCUPATIONAL HEALTH
DIRECTOR, BASING
DIRECTOR, ENVIRONMENTAL READINESS & SAFETY
DIRECTOR, BUSINESS ENTERPRISE INTEGRATION
M&S Coordination Office
M&SCO
Modeling & Simulation Coordination Office

Provisional, Aug. 19, 2009

M&S CO
Command & Communication


Secretary of Defense
Under Secretary of Defense For Acquisition, Technology and Logistics (USD(AT&L))
Director, Defense Research & Engineering
Director, Systems Engineering
Director, System Analysis
Director, Modeling and Simulation Coordination Office (M&S CO)
Advise and Assist on M&S Policy Issues
Chairman
Chairman
DoD Modeling and Simulation Steering Committee
DoD Modeling and Simulation Integrated Process Team

Modeling & Simulation Coordination Office (M&S CO)

Director
Mr. Jesse Citizen

M&S Information Analysis Center (MSIAC)
Mr. Bob Graebener

Deputy Director
COL Mike Sanders, USA

DoD M&S SC/IPT Support
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Ms. Joy Senavanh (IT spt)
Mr. Brandon Brinkman (IT spt)

Strategic Initiatives
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Ms. Pamela Hart (spt)

Ms. Yvetta Franklin (admin spt)
Ms. Valerie Cash (admin spt)

Associate Directors:
Corporate & Crosscutting M&S Issues & Initiatives

- **M&S Data**
  Mr. Roy Scrudder, IPA
  - Mr. John Daly (spt)
- **M&S Services**
  Dr. Amy Henninger, IPA
  - Mr. Ralph Gibson (spt)
- **M&S Tools**
  [Vacant]
  - Mr. Dennis McGroder (spt)

Business and Finance Manager
Mr. Denis Scott, IPA
- Mr. Manny Cotto (spt)

Community Coordinators:

- Acquisition
  - Mr. Mike Ellian * (spt)
- Analysis
  - Mr. Rick Parker (spt)
- Intelligence
  - Mr. Bruce Moody (spt)
- Experimentation
  - Mr. Kenneth Konwin (spt lead)
- Planning
  - Mr. Michael Capitman (spt)
- Test & Evaluation
  - Mr. Joseph Scott (spt)
- Training
  - Mr. Don Newton (spt)

* Mr. Mike Ellian is support for international coordination

M&S CO Mission

(1 of 3)

The Modeling and Simulation Coordination Office (M&S CO) performs those key corporate-level coordination functions necessary to encourage cooperation, synergism, and cost-effectiveness among the M&S activities of the DoD Components, as well as NATO and other international partners. The M&S CO is the Executive Secretariat for DoD M&S Management in fostering the interoperability, reuse, and affordability of crosscutting M&S to provide improved capabilities for DoD and international operations.

M&S CO Mission

(2 of 3)

Lead Standardization Activity:

The M&S CO is DoD's lead standardization activity (LSA) for managing modeling and simulation standards and methodologies (MSSM). On behalf of the USD(AT&L) and the DoD M&S SC, responsibilities are to coordinate:

- **DoD standardization documents in the MSSM area**
- **Adoption of non-government standards for DoD use**
- **VV&A policy and best practices**
- **Comments on standardization documents from other defense standardization program (DSP) areas that affect M&S**
- **Responsible for the development, coordination, promulgation and upkeep of NATO M&S Standardization Agreements (STANAGS)**

M&S CO Mission

(3 of 3)

NATO and Other International Partners:

The M&S CO is DoD's POC for coordinating M&S activities with NATO, Partnership for Peace (PfP) nations, The Technical Cooperation Program (TTCP), and other international Allies. Responsibilities:

- **Fully participating in on-going NATO/NMSG technical activities that support the DoD Strategic Vision to promote interactions between DoD and international partners**
- **Increase reuse of models & simulations and the data used by the models**
- **Improve efficiency in the development and use of M&S by influencing the framework where Communities, Services as well as international partners can combine efforts to meet US and NATO objectives**
- **Serve as the lead for the NATO US Delegation to ensure consistency in US participation**

MSIAC Mission

ort the DoD M&S community as the single integrated ort activity for use, employment and sustainment odeling and Simulation.

- Increase military operational readiness through promotion of M&S
- Promote reuse and standardization of M&S
- Provide in-depth M&S analyses
- Improve productivity of researchers, engineers, and program managers in DoD (and non-DoD) RD&A communities
- Create and disseminate specialized M&S scientific, technical, and operational support information

Defining MSIAC

- A Help Desk
- An M&S technical & operational support staff
- An M&S knowledge source (inquiries, technical services, publications, training, special studies and analysis)
- A source of community support: M&S calendar, M&S special interest areas, M&S state of the art information/reports, and M&S support services
- An electronic archive--Modeling and Simulation Information System (MSIS)
- A responsive contract vehicle especially designed for M&S customers

DoD Modeling & Simulation (M&S) Governance

[effective July 24, 2009 SC meeting]

M&S Management Structure Organized by Communities. Designed to Support & Integrate M&S Activities across the Department.
Led by a 1 to 2 Star M&S Steering Committee (M&S SC) to provide governance

Acquisition	Analysis	Experimentation	Intelligence	Planning	Testing	Training
AT&L	CAPE & JS	JFCOM	USD(I)	JS & Policy	DOT&E & AT&L	P&R

M&S Practices

Corporate & Crosscutting M&S Tools

Corporate & Crosscutting M&S Data

Corporate & Crosscutting M&S Services

(SE FORUM) (JADM) (JCDE EC) (DIMSCoG) (AP EXCOM) (T2 ESG)

Components

OSD, Joint Staff, COCOMs, Services

Goal: Establish corporate M&S management to address DoD goals: Leads/guides/shepherds the $Bs in DoD M&S investments; adds value thru metrics & ROI-driven priorities; and seeks to provide transparency.

Strategic Vision for DoD M&S

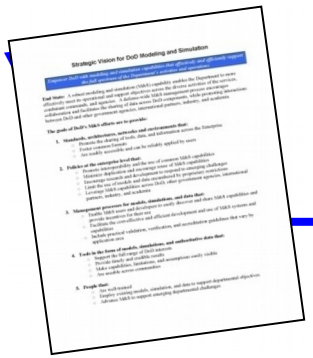
Vision

Empower DoD with Modeling and Simulation capabilities that effectively and efficiently support the full spectrum of the Department's activities and operations.

Goals

- Shared accessible standards, architectures, networks and environments
- Tools and authoritative data that are available to credibly support full range of DoD interests
- Enterprise-wide policies that promote use of common capabilities and minimize unnecessary duplication
- Management processes that promote sharing, reuse, and cost/effective development of M&S tools and data
- Well-trained workforce

DoD M&S Strategic Planning



Guidance for Development of the Fo

Congressional Reports 1 & 2

- Identify
- Quantify
- Manage

2008 Interviews with SC Members

- Informed the development of high-level tasks
- Informs future development of C&CC and Community BPs
- Used to select FY09/10 proposals

2008 Community Business Plans

FY09/10 C&CC Business Plan

Enables senior OSD leaders to advise and assist in the allocation of enterprise-level funding.

Bi-Annual Iteration

2010 Community Business Plans

Future Strategic Planning

Strategic Objectives

- **Standards:** Achieve a set of standards for the development, integration, and conduct of DoD modeling and simulation activities.
- **Interoperability:** Drive towards integrated modeling and simulation (tools, data, services) across Department activities.
- **Visibility:** Provide the capability to discover modeling and simulation (tools, data, and services) across DoD

Each "objective" will have "tasks" established for implementation with deliverables, metrics and

FY09/10 High Level Tasks

Task ID	Project Title	SC Oversight Lead	Other SC Oversight
S-C-1	M&S Standardization Process	Shaffer/Knollmann	AC, AN, EX, JS, PL, TR, TRMC, USA, USN
S-C-2	LVC Architecture Roadmap Implementation & Net-Centric Environment Implications	Gardner	AC, EX, JS, USAF
S-C-3	Development and Maintenance M&S Standards	Shaffer/Knollmann	AC, AN, EX, JS, PL, TR, TRMC, USA, USN
S-C-4	Develop Best Practices Guide for Contracting for Models, Simulations & Associated Data	Torelli	AN, EX, JS, PL, USMC
I-C-1	Integrate DoD-wide M&S into Net-Centric Environment	Shekmar	AC, AN, JS, TR, USAF
I-C-2	Rapid Data Generation (RDG)	Bonnet	AN, JS, TR, USAF
I-C-3	Enhancing Department Irregular Warfare Models & Simulations	Bexfield	EX, PL, JS, PL, USA, USMC
V-C-1	Visibility of M&S Tools & Data	Bexfield	AC, EX, JS, NII, PL, TR, , USAF, USN
V-AQ-2	Risk Based Methodology for Verification, Validation & Accreditation (VV&A)	Torelli	AN, PL, TRMC, USN

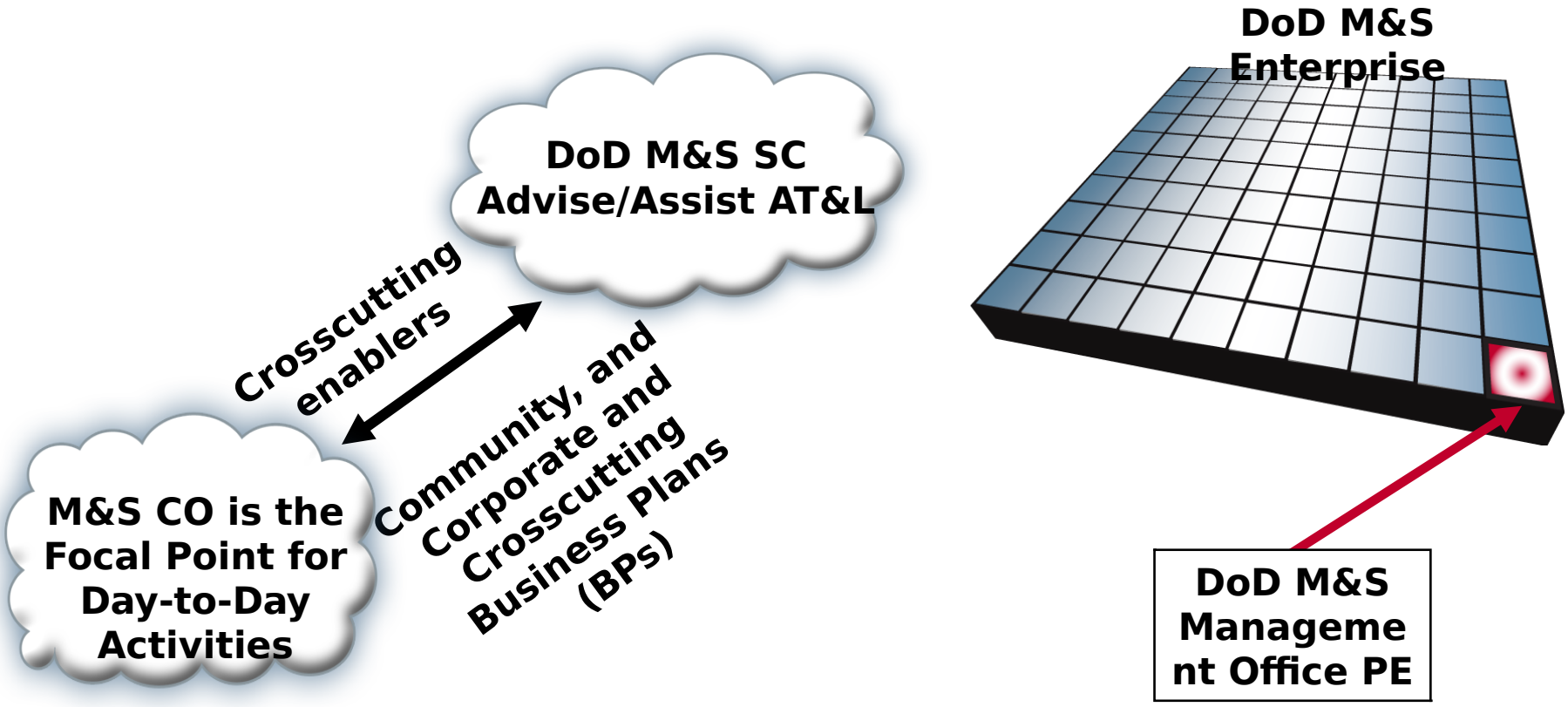
FY10 High Level Tasks

Task ID	Project Title	SC Oversight Lead	Other SC Oversight
S-C-1 Mod	M&S Standardization Process	Shaffer/Knollmann	AC, AN, EX, JS, PL, TR, TRMC, USA, USN
S-C-3 Mod	Development & Maintenance M&S Standards	Shaffer/Knollmann	AC, AN, EX, JS, PL, TR, TRMC, USA, USN
S-C-5	M&S Education Sustainment	Torelli	TE, USA, USAF, USMC, USN
I-C-3	Enhancing Department Irregular Warfare Models and Simulations	Bexfield	EX, PL, JS, PL, USA, USMC
I-C-4	Environmental Data Cube Support System (EDCSS)	Torelli	AN, TR, USA, USAF, USN
I-C-5	Enhancing Strategic Analysis M&S Capabilities	Murashige	AC, AN, EX, PL, NII, JS, USSTRATCOM, USA, USMC, USN
V-C-2	VV&A Roadmap	Torelli	TRMC, USAF, USMC, USN

DoD M&S Management Office Program Element

- How DoD Management Influences Department M&S -

Leveraging the DoD M&S Management Office Program Element (PE) to influence the Enterprise

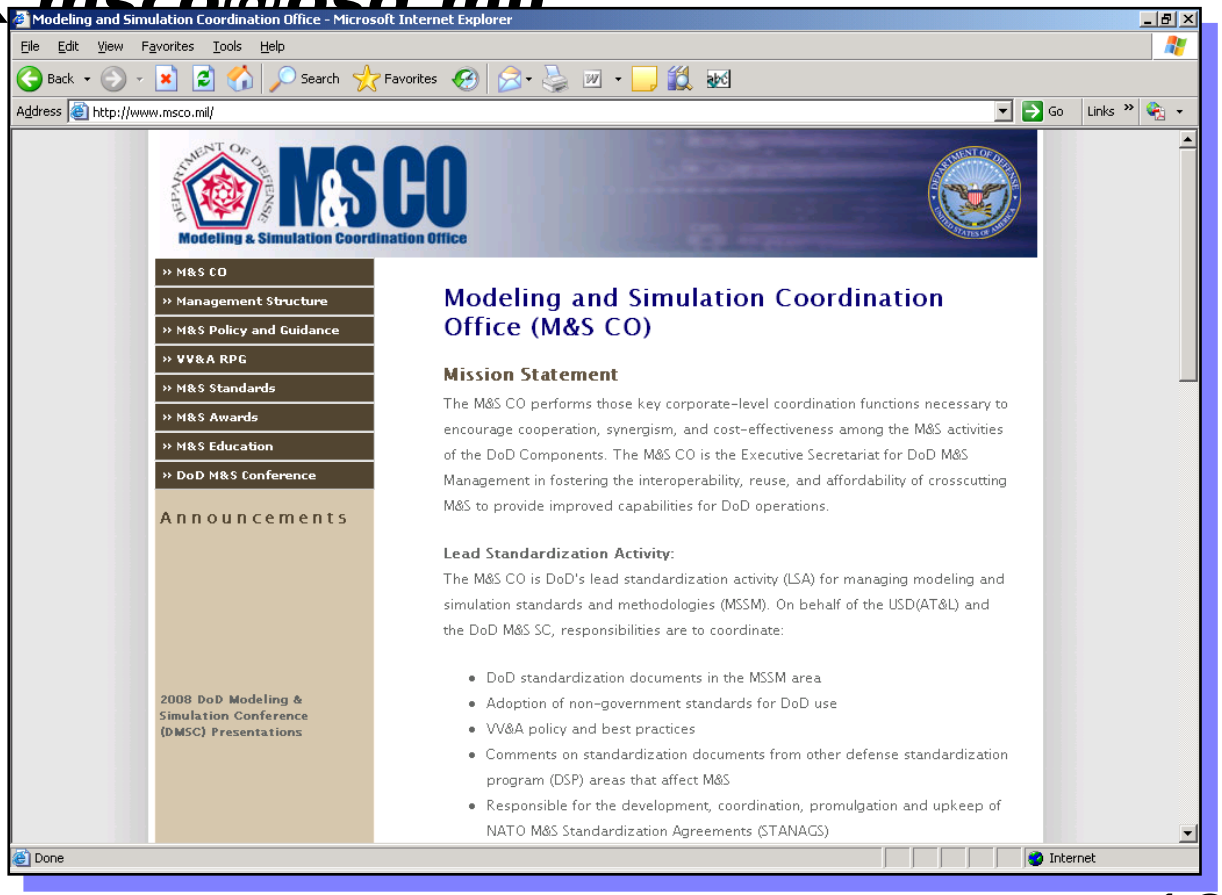

DoD M&S Enterprise
DoD M&S SC
Advise/Assist AT&L
Crosscutting enablers
Community, and Corporate and Crosscutting Business Plans (BPs)
M&S CO is the Focal Point for Day-to-Day Activities
DoD M&S Management Office PE

OSD/AT&L Funded M&S Tools

- Available tools:
  - M&S Catalog: describe capabilities
  - DoD Modeling and Simulation Information System (MSIS) Catalog
- Coming Soon: currently in prototype but will soon enable interoperability and visibility among the M&S communities
  - Defense Standards Vetting Tools (DSVT) describe capabilities
  - Validation, Verification, and Accreditation Tool describe capabilities
- Feature Presentation:
  - Register for the MSIS

How You Can Get Involved

- Visit the M&S CO website at ***www.msco.mil***
- Send your e-mail inquiries to ***ask.msco@osd.mil***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» Management Structure
» M&S Policy and Guidance
» VV&A RPG
» M&S Standards
» M&S Awards
» M&S Education
» DoD M&S Conference
Announcements
2008 DoD Modeling & Simulation Conference (DMSC) Presentations
Modeling and Simulation Coordination Office (M&S CO)
Mission Statement
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Responsible for the development, coordination, promulgation and upkeep of NATO M&S Standardization Agreements (STANAGS)
Done
Internet

Back-Up

DoD Modeling & Simulation Mgmt Office PE
- FY 08 Program Highlights -

- **DoD M&S Tools**
  - Training for Aviation Urban Operations
  - Representing the Impact of Insurgent Forces on Urban Cultural Geography
  - M&S tools for Effects Based Analysis of Electronic Warfare (EW) Impacts within Foreign Integrated Air Defense Systems (IADS)
  - Employment Planning Integration Through the Integrated Gaming System
  - Live Virtual Constructive Architecture Roadmap
  - CFAST Enabling Rapid Force Sourcing
- **DoD M&S Data**
  - Joint Data Alternatives
  - Common Live, Virtual, Constructive Terrain Database Evolution
  - Integrated Natural Environment Authoritative Representation Process
  - Vulnerability Assessment for Compilation of Data to enable the use of Global Force Management Data in M&S
  - Joint Composable Object Model
  - Unclassified Defense Planning Scenario & Analytical Baseline Development
- **DoD M&S Services**
  - Educating the M&S Workforce
  - VV&A Proponency Use Case

M&S SC Members

Mr. Alan R. Shaffer, OUSD(AT&L) – Steering Committee Chair
Mr. Nicholas Torelli, OUSD(AT&L)(SSE) – Acquisition Community
Mr. James Bexfield, ODPA&E – Analysis Community
Ms. Monica Shephard, JFCOM J-9 – Experimentation Community
Mr. Jake Schaffner, OUSD(I) – Intelligence Community
Mr. Joseph Bonnet, Joint Staff J-7 – Planning Community
Mr. David W. Duma, (ODOT&E) – Testing Community
Mr. Chip Ferguson, (OUSD(AT&L)/TRMC) – Testing Community
Mr. Dan Gardner, OUSD (P&R) – Training Community
Ms. Lisa Disbrow, Joint Staff J-8 – Joint Staff & Combatant Commands
Mr. Michael McNerney, OUSD(P) - Policy
Dr. Robert L. Steinrauf – Army Representative
Mr. Carl R. Siel – Navy Representative
Dr. George Akst – Marine Corps Representative

SC Guidance

1. Support to the war fighter (Joint Staff / JFCOM)
   - Lead IPT working group
   - Focus on
     - Review of requirements in JUONS and IPLs
     - What could be facilitated by better M&S support?

2. IW M&S improvements (Analysis)
   - SC to request IW M&S group, what M&S improvements are required to assist in this area
   - What human modeling gaps can be addressed

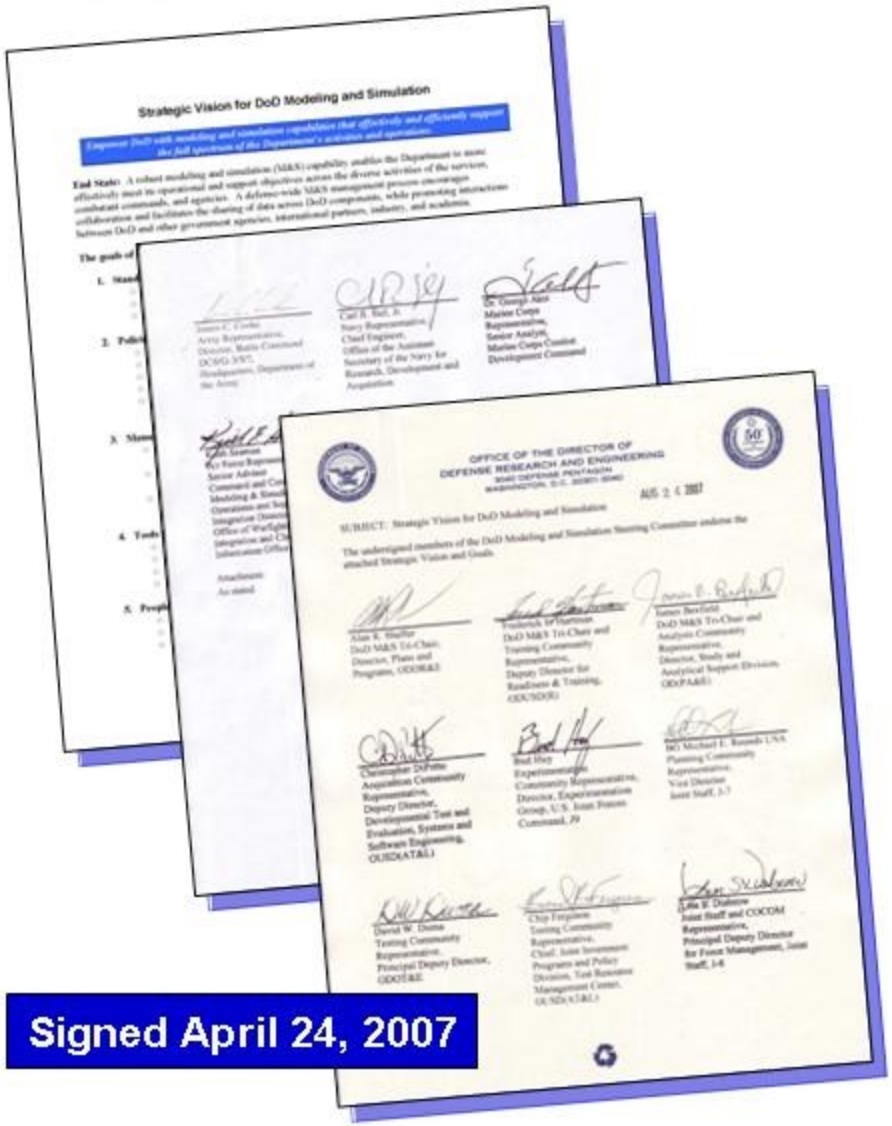
3. Increasing credibility, transparency and visibility (Analysis / M&S CO)
   - Catalogue
     - Implementation schedule
     - Required reference
     - Reuse Tracking
     - Could be used to address proprietary
     - Use to reduce duplication/avoid cost & measure progress
   - Policy issue on registry review (Clinger Cohen-IT application)

4. O&M Sustainment Process (Acquisition)
   - O&M sustainment/tailoring for corporate purposes

5. Ensure VV&A guidance is nuanced for specific applications & uses (Acquisition)
   - CMMI-like capability
   - Balance risk versus application of model

Strategic Vision for DoD M&S

(1 of 3)



Signed April 24, 2007

M&S SC Signatories

Mr. Alan R. Shaffer, OUSD(AT&L)
Mr. Fred E. Hartman, OUSD (P&R)
Mr. James Bexfield, ODPA&E
Mr. Christopher DiPetto, Acquisition Community
Mr. Bud Hay, Experimentation Community
BG Michael E. Rounds USA, Planning Community
Mr. David W. Duma, Testing Community (ODOT&E)
Mr. Chip Ferguson, Testing Community (OUSD(AT&L)/TRMC)
Ms. Lisa Disbrow, Joint Staff & Combatant Commands
Mr. James C. Cooke, Army Representative
Mr. Carl R. Siel, Navy Representative
Dr. George Akst, Marine Corps Representative
Mr. Keith Seaman, Air Force Representative
Ms. Rosemary Wenchel, OUSD(Intelligence)
Ms. Susan Shekmar, OASD(NII)

Strategic Vision for DoD M&S

(2 of 3)

Empower DoD with modeling and simulation capabilities that effectively and efficiently support the full spectrum of the Department's activities and operations.

End State: A robust modeling and simulation (M&S) capability enables the Department to more effectively meet its operational and support objectives across the diverse activities of the services, combatant commands, and agencies. A defense-wide M&S management process encourages collaboration and facilitates the sharing of data across DoD components, while promoting interactions between DoD and other government agencies, international partners, industry, and academia.

The goals of DoD's M&S efforts are to provide:

1. Standards, architectures, networks and environments that:

-- Promote the sharing of tools, data, and information across the Enterprise
-- Foster common formats
-- Are readily accessible and can be reliably applied by users

2. Policies at the enterprise level that:

-- Promote interoperability and the use of common M&S capabilities
-- Minimize duplication and encourage reuse of M&S capabilities
-- Encourage research and development to respond to emerging challenges
-- Limit the use of models and data encumbered by proprietary restrictions
-- Leverage M&S capabilities across DoD, other government agencies, international partners, industry, and academia

Strategic Vision for DoD M&S

(3 of 3)

3. Management processes for models, simulations, and data that:

-- Enable M&S users and developers to easily discover and share M&S capabilities and provide incentives for their use

-- Facilitate the cost-effective and efficient development and use of M&S systems and capabilities

-- Include practical validation, verification, and accreditation guidelines that vary by application area

4. Tools in the form of models, simulations, and authoritative data that:

-- Support the full range of DoD interests

-- Provide timely and credible results

-- Make capabilities, limitations, and assumptions easily visible

-- Are useable across communities

5. People that:

-- Are well-trained

-- Employ existing models, simulation, and data to support departmental objectives

-- Advance M&S to support emerging departmental challenges